Washington State Department of Transportation
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Secretary of Transportation

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April 29, 2010

Mr. Ken Berg
U.S. Fish and Wildlife Service
510 Desmond Drive SE, Suite 102
Lacey, WA 98503-1292
Attn.: Ryan McReynolds

RE: SR 162, Puyallup River Bridge 162/006 Replacement
Biological Assessment Addendum
WSDOT Project No. XL2760

Dear Mr.: McReynolds

The Washington State Department of Transportation (WSDOT), on behalf of the Army Corps of Engineers (ACOE) prepared and sent the U.S. Fish and Wildlife Service (USFWS) a Biological Assessment (BA) on April 18, 2009, for the above-referenced project.

The USFWS forwarded via email to WSDOT, questions concerning the project as described in the BA. These questions and the associated answers are as follows:

(a) We share NMFS's concern for the current plans with regard to removal of the existing bridge abutment piers/foundations and approach fills. Tim's observations with regard to persistent channel/floodplain constriction, and consistency with current and future proposals involving dike setback, are very much relevant to our consideration of the proposed action. While I grant the work would be complicated and difficult (especially at the south/right bank abutment), I would strongly encourage removal to a greater depth (e.g., to a minimum depth of 8, 10, or 12 ft. below existing ground line); whatever is practicable without making a real mess during construction. I second Tim's recommendation that the north/left bank abutment and approach fill, in particular, should be removed to the fullest extent practicable, both to minimize channel/floodplain constriction and prevent downstream current eddies and scour immediately in-front of the new north abutment. The Floodplain Analysis included as an Appendix to our copy of the BA identifies an almost negligible net reduction of floodplain fill (<250cy); it seems like there can and should be a greater net reduction, seeing as how the proposed bridge is ~60ft. longer.

Originally, WSDOT proposed to remove the existing bridge piers/abutments to a depth of two feet below the existing grade (elev.108). It is now WSDOT's intent to remove both piers/abutments down to the top of the pier cap, which is 13 feet below existing grade (elev. 105). The project will also grade the streambanks to blend from the streambank contours upstream of the existing pedestrian bridge to the existing streambank contours downstream of the proposed new bridge (Appendix A [demolition option plans]).

(b) We also share NMFS's desire to see any mature conifers removed with rootwad in-tact and made available for use in restoration projects. We understand this is not standard practice for WSDOT and would require a special provision and/or early coordination. However, this project's temporary impacts to functioning riparian vegetation and channel bed/bank condition are not insignificant, and the project really should be looking for opportunities that would partially off-set these impacts.

WSDOT conducted additional research on the potential for the trees to be removed and made available for future habitat projects. WSDOT has determined that it is not legal under current State law for WSDOT to donate State resources (the trees) without compensation. WSDOT has notified the current property owner, Pierce County, that they could salvage the trees for restoration projects prior to WSDOT taking ownership. WSDOT may be able to use the trees in nearby restoration projects and will continue to investigate the topic.

(c) <u>Question</u>: The Project Description and corresponding draft plan sheets say nothing about pier or abutment armor included in the new bridge design. Can you confirm, or explain otherwise, the project will not place riprap armor at the new north and south abutments or Pier 2 column.

The Environmental and Hydraulic Services (EHS) office has been recently informed that abutment armoring will be necessary to protect the bridge abutment/wingwalls from being undermined. Riprap protection will be required for the proposed south abutment. The limits of the riprap will be from 10 ft. upstream of the bridge to 10 ft. downstream of the bridge, for a total riverbank length of 60 ft. The primary effects of riprap installation are the effects of temporary construction related turbidity, which are covered in Section 9.1.1.2 of the SR 161 Puyallup River Bridge Replacement Biological Assessment and the direct impacts of the riprap footprint (Table 1.). The elevations of the riprap are shown on the bridge plans (Attachment B [*SR 162 Puyallup River Bridge Replacement riprap detail*]).

Table 1. Riprap Quantities

Type of Material	Volume above OHWM (cy)	Volume below OHWM (cy)	Area above OHWM (sq ft)	Area below OHWM (sq ft)
Riprap	79	61	1060	733
Filter Blanket Gravel	39	36	*	*

* Filter blanket gravel is immediately below riprap; therefore area covered is the same.

(d) Question: On page 32 the BA/BE refers to a "4,400 sq.ft. work area within the Puyallup River". Pages 6 and 33 provide another quantity for the footprint of the "temporary spread footings" or "hydraulic jacks" (~285 sq.ft.). Can you confirm, or explain otherwise, bridge demolition will require heavy equipment access throughout and therefore temporary impacts to approximately 4,500 sq.ft. of the Puyallup River's channel bed?

The 4,400 sq. ft. is the total area below the ordinary high water mark under the bridge. The area between where the aquabarrier will be installed and the toe of the concrete rubble on the southbank will not be impacted. The temporary work bridge will span this area. Only the area landward (north) of the aquabarrier (app. 1000 sq. ft) will be slowly dewatered as the aquabarrier is being installed. Volitional fish removal of this 1000 sq. ft. area, while the dewatering process is occurring, will be assisted by WSDOT biologists. The (~285 sq. ft.) is the actual footprint of the hydraulic jacks, which will be partially excavated for each footing. But, it is correct to assume the total gravel bar (~1000 sq. ft.) north of the aquabarrier will be temporary impacted during the demolition of the structure once lowered onto the gravel bar. Disturbance of the streambed and banks shall be limited to that necessary to dismantle the existing bridge and install the new bridge and any depressions created during bridge demolition will be regraded to preproject conditions.

(e) Question: Can WSDOT commit to using biodegradable hydraulic fluids and lubricants when completing work on the Puyallup River's channel bed?

Yes, WSDOT will commit to using biodegradable hydraulic fluids and lubricants when equipment is completing work below the OHWM within the Puyallup River.

(f) Question: Pages 33 and 43 state the proposed action will degrade the following habitat indicators ... pool frequency, pool quality, and refugia. Frankly, I'm not seeing things the same way. Can you explain how you reached these conclusions, especially with respect to pool frequency and quality? [FYI, I

don't think anyone believes that failed abutment armor and debris provide quality refugia, but I understand that's part of the explanation.]

The only pool habitat present within the project area is created by scouring at the toe of the concrete rubble on the south bank. Although it is not ideal pool habitat, it is the only pool habitat in the project area. The removal of the concrete rubble will reduce the scouring effect, allowing the pool to be filled in with streambed material reducing pool quality and quantity in the project action area.

If you have any additional questions, or require further clarification, please contact Eric Gower at 360-570-6709 (GowerE@wsdot.wa.gov) at your earliest convenience.

Sincerely,

Carl Ward
Biology Program Manager
Olympic Region

CWW:eg:jb:jkb

Attachments: Demolition Option Plans
Riprap Detail

cc: Michael Lamprecht, ACOE
Tim Rymer, NMFS
Jeff Sawyer, WSDOT
Carl Ward, WSDOT
Marion Carey, WSDOT
Eric Gower, WSDOT
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